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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/042,846	01/08/2002	Moti Haimovsky	37360	4483

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THE LAW OFFICE OF KIRK D. WILLIAMS
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EXAMINER	
CHEN, TSE W	
ART UNIT	**PAPER NUMBER**
2116	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/042,846	HAIMOVSKY ET AL.	
	Examiner	Art Unit	
	Tse Chen	2116	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 December 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *8,13,31-33 and 35-57* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *8,13,31-33 and 35-57* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 December 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 19. 2006 has been entered.

2. Claims 8, 13, 31-33, 35-57 are presented for examination.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 13, 33, 39, 42-45, 49-51 are rejected under 35 U.S.C. 102(b) as being anticipated by David et al., US Patent 5948101, hereinafter David.

5. In re claim 13, David discloses a method performed in an apparatus [fig.3] including a master system [server] communicatively coupled to a slave system [OMC], the master system including a master processor, a master memory [inherent to execute OS] associated with the master processor, a master system controller [19], and a storage mechanism [24] configured to store information [e.g., multiple images for multiple OMCs], the slave system including a slave processor [e.g., to execute bootstrap loader], a slave controller [e.g., part of processor that

transmits/receives communication] and a memory [e.g., 39] associated with the slave processor [col.1, ll.34-36; col.1, l.50; col.3, l.66; col.4, ll.36-37; col.5, l.65], the method comprising:

- The master system performing one or more operations to interrogate the slave system to identify one or more characteristics of the slave system [transmits predefined program to read characteristics such as hardware information of each requesting slave system], and to determine a boot image [e.g., 35] from the plurality of remote boot images based on said one or more characteristics identified during the interrogation operation [i.e., based on hardware compatibility] [col.4, ll.54-60; col.5, ll.14-22].
- The slave controller sending a boot request to the master system controller [col.6, ll.1-3].
- The master system controller, in response to the boot request, causing the boot image determined based on said one or more characteristics identified during the interrogation operation to be retrieved from the storage mechanism and communicated to the slave controller [col.6, ll.1-12; master system controller retrieves particular boot image based on hardware compatibility within equivalent set].
- The slave controller relaying the boot image to the slave processor or the memory associated with the slave processor [col.6. l.9; slave controller receives the transmitted boot image to be executed by the slave processor].
- The slave processor booting with the boot image determined by the master system based on said one or more characteristics identified during the interrogation operation [col.6, l.10].

6. In re claim 45, David discloses an apparatus [fig.3] comprising:

- A master system [server].

- A slave system [OMC] including:
    - A memory [e.g., 39] and a programmable interface [interface necessary to communicate with master system comprising programmable memory containing the letterbug] coupled to the master system, the programmable interface including a system controller [e.g., bootstrap loader] [col.4, ll.36-37; col.5, l.65].
- Wherein the master system includes:
    - A master memory [inherent to execute OS], a storage mechanism [24] for storing a plurality of remote boot images [storing multiple images for multiple OMCs], the plurality of remote boot images including a remote boot image [e.g., 35] [col.1, ll.34-36; col.1, l.50; col.3, l.66].
    - Means for performing one or more operations to identify one or more characteristics of the slave system, said operations including interrogating the slave system to identify its respective said one or more characteristics [transmits predefined program to read characteristics such as hardware information of each requesting slave system] [col.4, ll.35-60].
    - Means for determining that the remote boot image from the plurality of remote boot images should be used for the slave system in response to said interrogation of the slave system and based on said identified characteristics of the slave system [i.e., based on hardware compatibility] [col.4, ll.54-60; col.5, ll.14-22].
    - Means for updating the programmable interface [i.e., update the letterbug] of the slave system to cause the slave system to retrieve and boot from the remote boot image [col.5, ll.14-22; col.5, ll.64-65; col.6, ll.1-12].

7. As to claim 33, David discloses, wherein said one or more characteristics include its type or version [col.4, l.60].

8. As to claim 39, David discloses, wherein the master system, in response to said determining the boot image from the plurality of remote boot images based on said one more characteristics identified during the interrogation operation, causes the slave system to request the boot image determined by the master system based on said one or more characteristics identified during the interrogation operation [col.5, ll.64-65; master system sends letterbug causing slave system to request the determined boot image].

9. As to claims 42 and 49, David discloses, wherein said one or more characteristics include its type [e.g., system associated with Ethernet type 23] [col.7, ll.23-46].

10. As to claims 43-44, 50-51, David discloses, wherein said one or more characteristics include its version [e.g., system associated with BIOS version 6a] [col.4, l.60; col.7, ll.23-46].

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 8, 31-32, 35-36, 52-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over David, in view of Haisraeli, US Publication 20040015846.

13. In re claims 8 and 52, David discloses an apparatus [fig.3] comprising:

- A master system [server] including a master memory [inherent to execute OS] and a storage mechanism [24] for storing a first remote boot image and a second remote boot

image [storing multiple images for multiple OMCs] [col.1, ll.34-36; col.1, l.50; col.3, l.66].

- A first slave system [OMC] including a first memory [e.g., 39] and a first programmable interface [interface necessary to communicate with master system comprising programmable memory containing the letterbug] coupled to the master system, the first programmable interface including a first system controller [bootstrap loader] [col.4, ll.36-37; col.5, l.65].
- A second slave system [i.e., multiple OMCs akin to first slave system in distributed processing system] including a second memory and a second programmable interface coupled to the master system, the second programmable interface including a second system controller [col.1, ll.20-24; col.3, l.66].
- Wherein the master system is configured to perform one or more operations to identify one or more characteristics of each of the first slave system and the second slave system [transmits predefined program to read characteristics such as hardware information of each requesting slave system] after the master system is booted and the first and second system controllers are released [master system booted prior in order to service slave system requesting boot with seed letterbug; first and second system controllers released or freed to process commands without master system control – e.g., requesting boot with seed letterbug freely of master system control; in response to released or freed first and second slave systems requesting boot with seed letterbug, master system then identifies one or more characteristics of each of the first slave system and the second slave system],

said operations including interrogating the first and second slave system to identify their respective said characteristics [e.g., hardware information] [col.4, ll.35-60].

- Wherein the master system is configured to determine that the first remote boot image [e.g., 35] should be used for the first slave system in response to said interrogation of the first slave system and based on said identified characteristics of the first slave system [i.e., based on hardware compatibility], and to update the first programmable interface [i.e., update the letterbug] to cause the first slave system to retrieve the first remote boot image and to boot from said retrieved first remote boot image [col.5, ll.14-22; col.5, ll.64-65; col.6, ll.1-12].
- Wherein the master system is configured to determine that the second remote boot image should be used for the second slave system in response to said interrogation of the second slave system and based on said identified characteristics of the second slave system, and to update the second programmable interface to cause the second slave system to retrieve the second remote boot image and to boot from said retrieved second remote boot image [col.1, ll.20-24; col.3, l.66; boot operations discussed for first slave system applicable to multiple other OMCs].

14. David did not disclose explicitly that the first and second system controllers are released by the master system.

15. Haisraeli discloses an apparatus [fig.15] wherein first and second system controllers [slaves 302] are released [release_sync command] by the master system [300] [pt.0307; table 7].

16. It would have been obvious to one of ordinary skill in the art, having the teachings of Haisraeli and David before him at the time the invention was made, to modify the apparatus

taught by David to include the teachings of Haisraeli, as Haisrali's teachings of testing a distributed processing system [Haisraeli: 0002] is pertinent to the apparatus of David [i.e., David's distributed processing system needs some testing performed to determine proper functionality]. One of ordinary skill in the art would have been motivated to make such a combination as it provides a way to perform testing on a distributed system such as David's in determining functionality for proper operation [Hairaeli: 0002, 0009, 0283; table 7; testing requires synchronized release between master and slave with master invoking the release function of slaves].

17. As to claims 31, 53, David discloses, wherein said one or more characteristics include its type [e.g., system associated with Ethernet type 23] [col.7, ll.23-46].

18. As to claims 32, 35, 54-55, David discloses, wherein said one or more characteristics include its version [e.g., system associated with BIOS version 6a] [col.4, l.60; col.7, ll.23-46].

19. As to claim 36, David discloses, wherein the master system is coupled to the first and second slave systems via a single bus [nodebus] [fig.3].

20. Claims 37-38, 56-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over David and Haisraeli as applied to claims 8 and 52 above, and further in view of Haigh et al., US Publication 20020087854, hereinafter Haigh.

21. David and Haisraeli disclose each and every limitation as discussed above. David discloses the first programmable interface [responsible for communication] is configured for accessing the first remote boot image [col.6, ll.1-12; first programmable interface of OMC accesses the first remote image 35 via a boot request]. David did not discuss the details

associated with accessing the first remote image [i.e., intricate operations involved with delivery of the first remote boot image such as translating a boot address].

22. In re claims 37 and 56, Haigh discloses an apparatus [fig.1] comprising:

- A master system [101, 260] including a master memory [0030; e.g., OS 224 stored and run from local memory] and a storage mechanism [201] for storing a first remote boot image [e.g., 203 with OS] and a second remote boot image [e.g., 205 with OS] [fig.2, 0022-23, 0026, 0029-30; divided disk portions storing associated boot images].
- A first slave system [100, 250] including a first memory [0030; e.g., OS 212 stored and run from local memory] and a first programmable interface [230/320 and associated circuitries/units] coupled to the master system, the first programmable interface including a first system controller [218] [0025, 0034].
- A second slave system [i.e., plural diskless PCs akin to first slave system] including a second memory and a second programmable interface coupled to the master system, the second programmable interface including a second system controller [0023].
- Wherein the master system is configured to perform one or more operations to identify the first slave system and the second slave system after the master system is booted and the first and second system controllers are released [0026, 0029; master system booted prior to slave system requesting image; first and second system controllers released or freed to process commands without master system control – e.g., requesting image freely of master system control; in response to released or freed first and second slave systems requesting associated image, master system inherently performs some operation to

identify the first and second slave systems to obtain associated images from particular disk portion].

- Wherein the master system is configured to determine that the first remote boot image should be used for the first slave system and to cause the first slave system to retrieve the first remote boot image and to boot from said retrieved first remote boot image; and wherein the master system is configured to determine that the second remote boot image should be used for the second slave system and to cause the second slave system to retrieve the second remote boot image and to boot from said retrieved second remote boot image [0026, 0029-30; master system determining the associated image with OS loader from master system causing slave systems to retrieve the image].
- Wherein the first programmable interface is configured to translate [i.e., broadly interpreted as modifying or changing an original entity to another] an original boot address [e.g., parameters associated with boot image address] to a remote boot address for accessing the first remote boot image [0025].

23. It would have been obvious to one of ordinary skill in the art, having the teachings of David, Haisraeli and Haigh before him at the time the invention was made, to modify the apparatus taught by David and Haisraeli to include the details associated with accessing the first remote image taught by Haigh, in order to obtain the apparatus comprising the first programmable interface configured to translate an original boot address to a remote boot address for accessing the first remote boot image [Haigh's accessing process with the single disk architecture is suitable for David's similar setup – single disk 24]. One of ordinary skill in the art

would have been motivated to make such a combination as it provides an actual way to access remote boot images with reduction in overhead and maintenance [Haigh: pt.0003-4].

24. As to claims 38 and 57, David discloses, wherein the first slave system includes a boot ROM [39], and wherein the original boot address refers to a location in the boot ROM [col.4, ll.35-37; original boot address refers to location of bootstrap loader]. Haigh discloses, wherein the first slave system includes a boot disk [conventionally], and wherein the original boot address [parameter] refers to a location in the boot disk for retrieving a locally stored boot image within the first slave system [0025]. Examiner had previously taken Official Notice that it is well known in the art to store boot images in a ROM disk in order to prevent unintended modifications. One of ordinary skill in the art would have been motivated to make such a combination as it provides a way to access a backup safe boot image in anomalous situations [e.g., network failure prevents accessing remote boot image].

25. Claims 40-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over David as applied to claim 13 above, and further in view of Haigh as applied to claim 37 above.

26. David discloses each and every limitation as discussed above. David did not discuss the details associated with accessing the first remote image [i.e., intricate operations involved with delivery of the first remote boot image].

27. In re claim 40, Haigh discloses an apparatus [fig.1] comprising the operation of the slave controller sending the boot request to the master controller includes the slave controller translating [i.e., broadly interpreted as modifying or changing an original entity to another] an original boot address [e.g., parameters associated with boot image address] to a remote boot address for accessing the boot image [0025].

28. It would have been obvious to one of ordinary skill in the art, having the teachings of David and Haigh before him at the time the invention was made, to modify the apparatus taught by David to include the details associated with accessing the first remote image taught by Haigh, in order to obtain the method comprising the operation of the slave controller sending the boot request to the master controller includes the slave controller translating an original boot address to a remote boot address for accessing the boot image determined based on said one or more characteristics identified during the interrogation operation to be retrieved [Haigh's accessing process with the single disk architecture is suitable for David's similar setup – single disk 24]. One of ordinary skill in the art would have been motivated to make such a combination as it provides an actual way to access remote boot images with reduction in overhead and maintenance [Haigh: pt.0003-4].

29. As to claim 41, David discloses, wherein the first slave system includes a boot ROM [39], and wherein the original boot address refers to a location in the boot ROM [col.4, ll.35-37; original boot address refers to location of bootstrap loader].

30. Claims 46-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over David as applied to claim 45 above, and further in view of Haigh as applied to claims 37-38 above.

31. In re claim 46, David and Haigh disclose each and every limitation as discussed above in particular reference to claim 37.

32. In re claim 47, David and Haigh disclose each and every limitation as discussed above in particular reference to claim 38.

33. In re claim 48, Haigh discloses, means for programming the translation of the original boot address to the remote boot address [0025; programming to translate the parameters

associated with the boot image address]. It would have been obvious to one of ordinary skill in the art, having the teachings of David and Haigh before him at the time the invention was made, to modify the apparatus taught by David to include the details associated with accessing the first remote image taught by Haigh, in order to obtain the method wherein said means for updating the programmable interface includes means for programming the translation of the original boot address to the remote boot address [means for updating the programmable interface would have the appropriate address to be programmed]. One of ordinary skill in the art would have been motivated to make such a combination as it provides an actual way to access remote boot images with reduction in overhead and maintenance [Haigh: pt.0003-4].

Response to Arguments

34. Applicant's replacement specification with respect to the objection under 35 U.S.C. 132(a) of the previous Office Action has been fully considered. The objection has been withdrawn.

35. Applicant's replacement drawings with respect to the objection under 37 CFR 1.83(a) of the previous Office Action have been fully considered. The objection has been withdrawn.

36. Applicant's arguments with respect to claims 8 and 37 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tse Chen whose telephone number is (571) 272-3672. The examiner can normally be reached on Monday - Friday 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rehana Perveen can be reached on (571) 272-3676. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tse Chen
February 8, 2007